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ABSTRACT

This paper is a product of Project COMPETE, a service demonstration project undertaken for the purpose of developing and validating a model and training sequence to improve transition services for moderately, severely, and profoundly retarded youth. The paper reports on the first 2 years of the project, which has placed 20 students with a mean IQ of about 38 in community work experience sites. A marketing approach was used which showed that employers considered such worker characteristics as good work habits, work attitudes, and interpersonal skills to be critical to occupational stability. It also showed that employers consider a worker who has previously developed the critical traits to be easier to retrain because retraining can focus on vocational skill specific to the new job. The project's experience has shown the usefulness of employer-validated information and evaluative feedback in development of a vocational training program at the secondary level that stresses the demands of the work environment and cooperative programming by both public schools and rehabilitation agencies. (DB)

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Severely Handicapped Youth Competing in the Labor Market: Implementation and Effectiveness Report From the First Two Years of Project COMPETE

Joseph R. Easterday, Richard B. Dever, Patricia L. Sitlington

Working Paper #87-2

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Project COMPETE (Community-based Model for Public school Exit and Transition to Employment) is a service demonstration project funded to investigate secondary education and transition services for severely handicapped youth. COMPETE is a cooperative effort between the Center for Innovation in Teaching the Handicapped at Indiana University, and agencies in Columbus and Seymour, Indiana: Developmental Services, Inc., and the Bartholomew County Special Services Cooperative.

The purpose of COMPETE is to develop and validate a model that applies the results of previous research and exemplary practices. Project COMPETE is developing a training sequence to assist moderately, severely, and profoundly retarded youth in making the transition from school to employment in the competitive environment possible. COMPETE is also concentrating on establishing formal linkages between the rehabilitation center and the public school system in order to ensure a totally integrated continuum of preparation for youth from secondary through post-secondary levels.

The attached working paper is one product of this project. For more information on Project COMPETE please contact either of the project staff below.

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Severely Handicapped Youth Competing in the Labor Market: Implementation and Effectiveness Report From the First Two Years of Project COMPETE

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The purpose of Project COMPETE is to develop and validate an interagency service provision model that applies the results of previous research and exemplary practice in assisting severely handicapped youth to make the transition from school to employment. The contents of this report present only a small portion of the implementation procedures and data collected in the first two years of Project COMPETE activities (10/21/85 to 8/8/86). Although incomplete, these data do indicate the general thrust of the project, and demonstrate the efficacy of project activities related to the development of the COMPETE model.

Target Population

Table 1 indicates the distribution of IQ scores of the original target population in Columbus, Indiana, during the '84-'85 school year. Students placed in community work experience sites are all age 16 years or older. Individuals who were members of the original school-age target population, and who have since graduated from the senior high class, remain members of the target population. As indicated by the distribution of IQ scores and class means, the Project COMPETE target population is composed of youth who are severely handicapped, and thus representative of a population usually considered as "difficult to place in competitive employment" (Moon, Goodall, Barcus & Brooke, 1985).

Insert Table 1 about here

Community Survey Approach

Most approaches to supported employment programs involve one variation or another of the ecological approach. This perspective has its roots in ecological psychology, a discipline which studies the interrelationships and interdependencies between individuals, their behavior, and their physical and social environment. From the ecological perspective, behavior is viewed as the interaction between a person and the enivronment (Chadsey-Rusch & Rusch, 1986).

Project COMPETE adopted a form of the ecological approach, and as part of its on-going activities, the staff has conducted a major community survey. Project COMPETE's original conceptualization of community survey analysis, presented in Figure 1, is similar to the approach found in Moon, Goodall, Barcus, and Brooke (1985) with one major exception (indicated in the last box in the survey sequence, i.e., the critical functions analysis). Most ecological approaches have used detailed task analyses to describe every aspect of a job to train clients and to keep records of client progress. The use of critical functions analysis, and Project COMPETE data indicating its usefulness, will be discussed in detail near the end of this report. It will be shown that a critical functions analysis is a practical alternative to the more cumbersome use of task analyses. Prior to discussing this

Table 1.

Distribution of IQ Scores of the Original Project COMPETE Target Population ('84-'85 School Year).

IQ	Senior High (CA Range: 13-18)	Middle School / Jr. High (CA Range: 12-16)
50>	2	0
45-49	0	1
40-44	7	1
35-39	1	1
30-34	1	1
25-29	1	2
20-24	1	0
15-19	0	1
Total	13	7
	Mean: 39.38	Mean: 37.67
	Median: 40	Median: 30
	IQ Range: 24-54	IQ Range: 19-46

topic, however, we will present the strategy employed to carry out the project activities found in Figure 1, and highlight the data gathered in the first year and a half of the project.

Insert Figure 1. about here

A Marketing Strategy Application for a Competitive Employment Program

The ecological survey methodology used in Project COMPETE is couched in the framework of a marketing approach to the provision of transition services. Marketing strategies relative to vocational (re)habilitation programs have been dicussed at least since Kotler (1975) made the distinction between a "sales" approach and a "marketing" approach, i.e., "sales [refers to] a product-orientation backed by selling and promoting aimed at generating high sales" (p. 44); "marketing [involves] ...a reorientation... from looking inward towards products to looking outward toward the consumers' needs" (p. 96). More recently, Como and Hagner (1986) have described the marketing approach as a "two client" approach in which both the handicapped worker and the employer are the clients served by the (re)habilitation agency. Additionally, Como and Hagner maintain that a marketing approach to vocational (re)habilitation programming results in a positive message based on the premise that the (re)habilitation agency can offer businesses products and services that they need and value.

Figure 1.

Project COMPETE Employment Survey Sequence (Original)

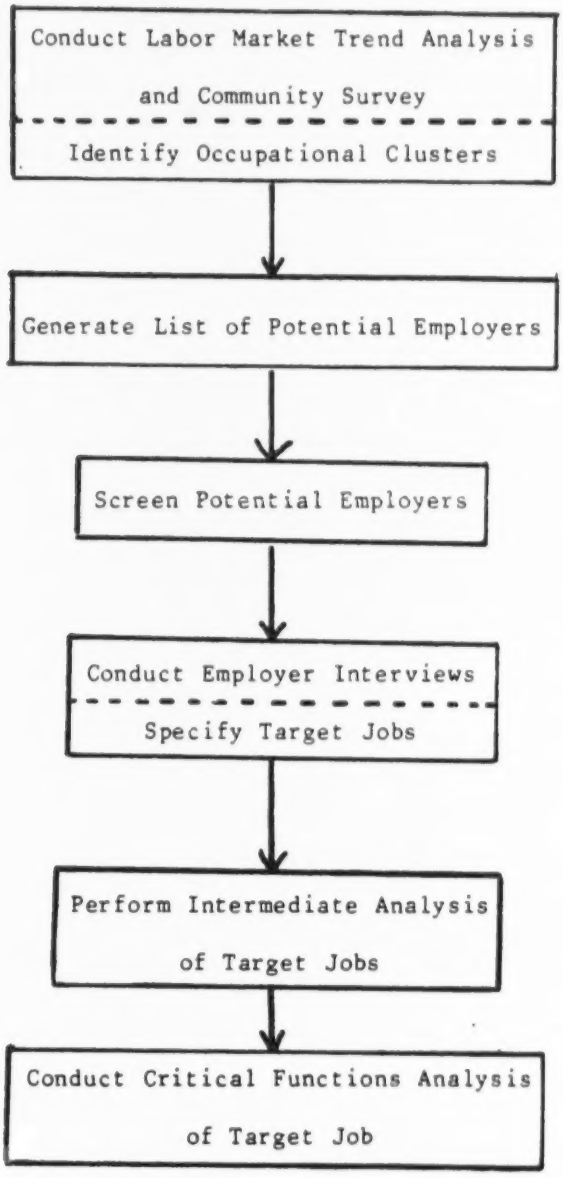

Conduct Labor Market Trend Analysis and Community Survey
Identify Occupational Clusters
Generate List of Potential Employers
Screen Potential Employers
Conduct Employer Interviews
Specify Target Jobs
Perform Intermediate Analysis of Target Jobs
Conduct Critical Functions Analysis of Target Job

Figure 2 presents the marketing model utilized by Project COMPETE to generate consumer input and evaluative feedback from employers (c.f. Young, Rosati, & Vandergoot, 1986). The discussion of this figure begins with the box in the lower left-hand corner labeled "Locating Potential Consumers." Survey activities in this area include both the labor market trend analysis (described in COMPETE Working Paper #85-3), and the telephone screening and "Basic Information" interview (described in COMPETE Working Paper #85-4). The two boxes (separated by a dotted line) at the top of the diagram represent input from potential consumers relative to the initial employment access and subsequent occupational stability of mentally retarded employees. "Initial Access" information refers to any information related to an employer's decision on hiring a mentally retarded person, including employers' perspectives on the importance of various "incentives" available to employers who hire mentally retarded employees (techniques and data discussed in COMPETE Working Paper #85-6). "Occupational Stability" information refers to behaviors and skills that employers consider characteristic of competent or valued employees (techniques presented in COMPETE Working Paper #85-4: Worker Requirements and Intermediate Job Analysis). The box in the lower right-hand corner labeled "Quality Control" refers to various measures of student/client progress, including ongoing employer feedback regarding the outcomes of employment training and worker performance (described in this working paper). Finally, as information is obtained from each of the information-source components, the training program and marketing tactics are adjusted to reflect employer input (indicated by the circle and the arrows connected to the informational components).

Insert Figure 2. about here

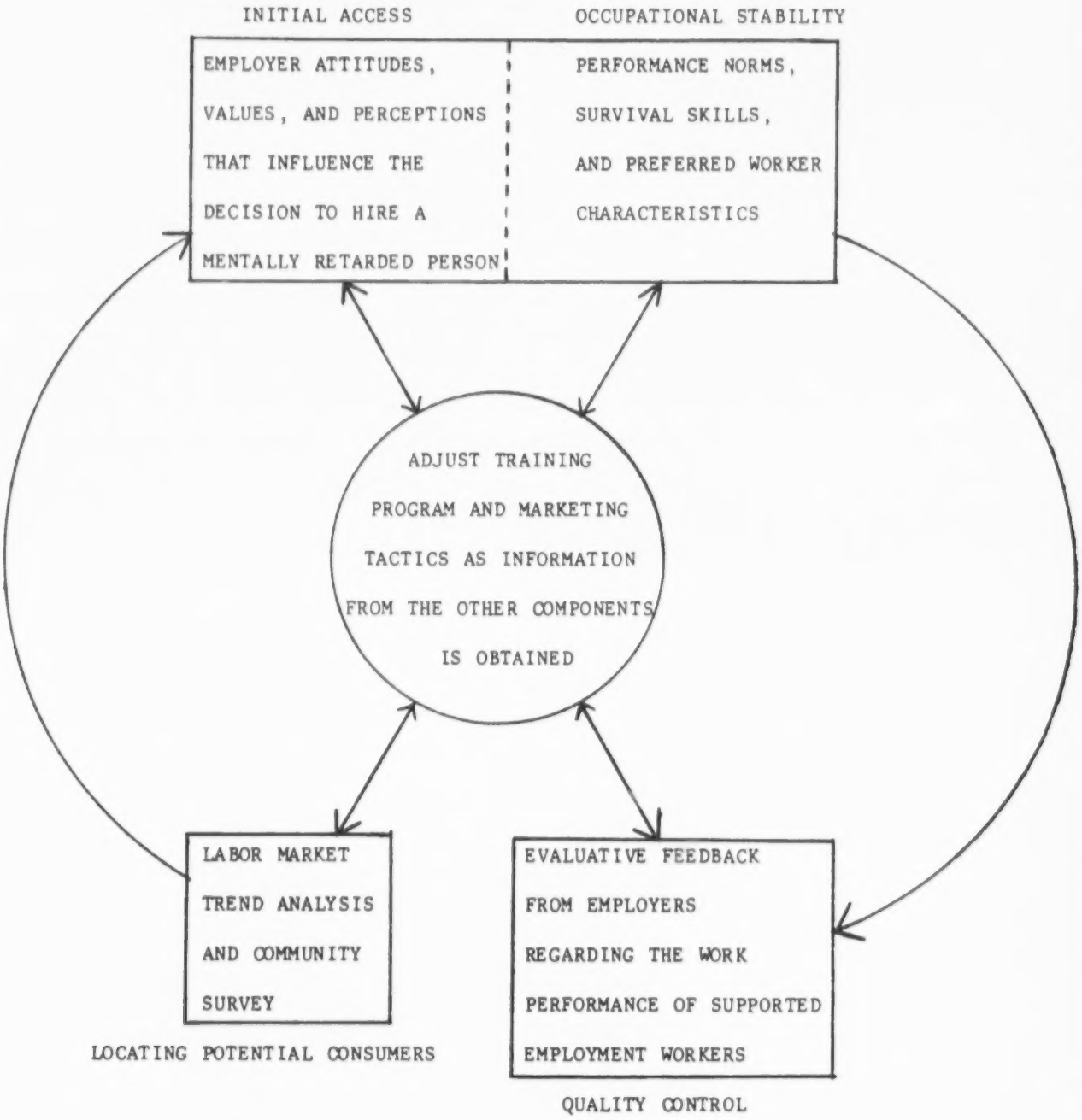
Locating Potential Consumers

Figure 3 presents a breakdown of the Columbus, Indiana employer survey. Using the results of data presented in COMPETE Working Paper #85-3 (Conducting A Labor Market Trend Analysis: Process and Results) and a local phone book, 128 businesses were identified that were likely to hire employees for jobs described as entry-level occupations requiring little or no previous work experience, no specific educational qualifications, and no advanced skill training (Indiana Employment Security Division, 1984). Project COMPETE personnel contacted each place of business by phone and asked to speak with the individual responsible for hiring new employees. Once contact was made, the screener explained the purpose of the survey and attempted to arrange a personal interview with the hiring official. Only 26 hiring officials refused to be interviewed. The remaining 102 hiring officials were interviewed by Project COMPETE personnel utilizing the survey forms contained in COMPETE Working Paper #85-4. After analyzing the survey results, 84 of the businesses were considered to hire employees for jobs judged accessible to moderately handicapped individuals. The bottom of Figure 3 contains a breakdown of the 122 potential job sites identified in the survey, and organized by the job cluster.

FIGURE 2.

PROJECT COMPETE

A MARKETING STRATEGY APPLICATION FOR A SUPPORTED EMPLOYMENT PROGRAM


INITIAL ACCESS
OCCUPATIONAL STABILITY
EMPLOYER ATTITUDES, VALUES, AND PERCEPTIONS THAT INFLUENCE THE DECISION TO HIRE A MENTALLY RETARDED PERSON
PERFORMANCE NORMS, SURVIVAL SKILLS, AND PREFERRED WORKER CHARACTERISTICS
ADJUST TRAINING PROGRAM AND MARKETING TACTICS AS INFORMATION FROM THE OTHER COMPONENTS IS OBTAINED
LABOR MARKET TREND ANALYSIS AND COMMUNITY SURVEY
LOCATING POTENTIAL CONSUMERS
EVALUATIVE FEEDBACK FROM EMPLOYERS REGARDING THE WORK PERFORMANCE OF SUPPORTED EMPLOYMENT WORKERS
QUALITY CONTROL

Insert Figure 3 about here

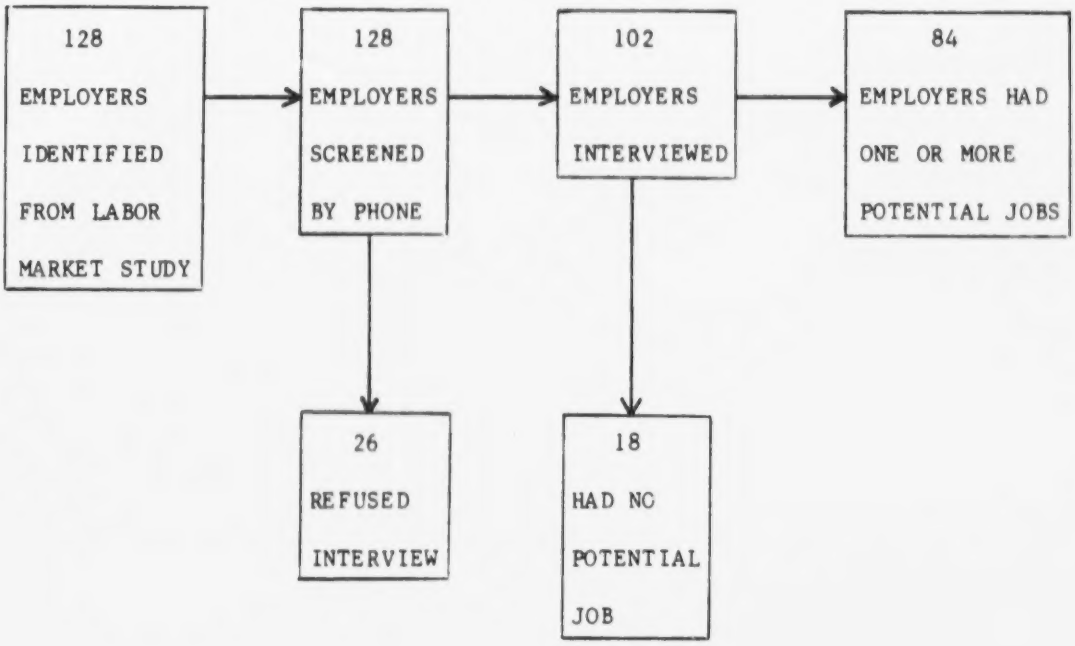
Initial Access

During the employer interviews, the hiring official was given a form which listed ten potential "incentives" that might affect an employer's decision to hire a mentally retarded worker. The hiring official was instructed to rate each incentive on a 2-1-0 scale (2 = definitely affect; 1 = maybe affect; and 0 = not affect). Table 2 presents a summary of employer ratings of these incentive factors. It contains mean responses for each incentive factor, and lists incentive factors in descending order of the mean rankings. Mean responses of incentive factors that exceeded 1.5 were: a) The probability of regular attendance (1.96); b) ongoing availability of a person to call for assistance (1.69); c) high probability of long-term employment (1.67); and d) availability of a person for on-site training (1.57). The high mean rankings of these four incentives are interesting for at least two reasons: first, studies such as those by Brickey and Campbell (1981) and Wehman, Hill, Hill, Brooke, Pendleton, and Britt (1985) have consistently indicated that mentally retarded employees tend to have better attendance records and are more likely to be long-term employees in high-turnover jobs than their nonhandicapped counterparts; second, the availability of a person on-call to provide assistance and on-site training is a major characteristic of a supported employment program.

FIGURE 3.

PROJECT COMPETE

BREAKDOWN OF COLUMBUS EMPLOYER SURVEY



POTENTIAL JOB SITES BY CLUSTER (N = 122)

FOOD SERVICE	JANITORIAL	GROUNDS-KEEPING	LAUNDRY	HOUSE-KEEPING	GENERAL LABOR
32	29	9	13	6	33

The fact that these items were rated highly bodes well for the concept of supported employment. Another interesting finding was in the relatively low mean responses for both tax credits (.93) and the opportunity to pay subminimum wages (.63). Unlike many other job surveys, most of the businesses surveyed in this study were small (mean number of employees = 49), and perhaps the hiring officials saw tax credits and subminimum wages as little more than unwanted regulatory interference and additional paper work (The hiring officials interviewed in this survey often were also the owners of the business).

Insert Table 2 about here

Occupational Stability

After the hiring official had identified the major entry-level/minimum wage positions within his/her place of business, the interviewer said, "We are interested in finding out what you think makes a good employee in these positions." The hiring official was then asked to respond to the following open-ended question: "What makes you want to keep an employee?" A total of 301 separate response statements were obtained from the sample of 84 employers. A coding system was developed which categorized these responses into the five major response areas of general vocational skills, work habits, work attitudes, miscellaneous personal characteristics, and interpersonal and communication skills. The categorization system also included a number of sub-classifications

TABLE 2.

PROJECT COMPETE

EMPLOYER RESPONSES RELATED TO DEGREE THAT INCENTIVES WOULD AFFECT DECISION TO HIRE A MENTALLY RETARDED WORKER (N = 84 EMPLOYERS)

INCENTIVE	DEFINITELY AFFECT (2) NO. (%)	MAYBE AFFECT (1) NO. (%)	NOT AFFECT (0) NO. (%)	NR[a] NO. (%)	MEAN
REGULAR ATTENDANCE	82 (98)	1 (1)	1 (1)	0 (0)	1.96
PERSON ON CALL	67 (80)	8 (10)	9 (11)	0 (0)	1.69
LONG-TERM EMPLOYMENT	66 (78)	5 (6)	11 (13)	2 (2)	1.67
PERSON FOR ON-SITE TRAINING	61 (73)	10 (12)	13 (15)	0 (0)	1.57
PRE-JOB TRAINING	55 (65)	14 (17)	14 (17)	1 (1)	1.49
CIVIC RESPONSIBILITY	49 (58)	12 (14)	22 (26)	1 (1)	1.33
PUBLIC RELATIONS	49 (58)	13 (15)	22 (26)	0 (0)	1.32
FUNDED O.J.T.	44 (52)	15 (18)	25 (30)	0 (0)	1.23
TAX CREDITS	33 (39)	12 (14)	39 (46)	0 (0)	.93
SUBMINIMUM WAGE	22 (26)	9 (11)	53 (63)	0 (0)	.63

NR[a] = NO RESPONSE

NOTE. PERCENTAGES DO NOT ALWAYS EQUAL 100 DUE TO ROUNDING PROCESS.

within each of the major category areas. The inter-rater agreement for classifying responses to this question (including both major and sub-classification categories) was .93 across five independent raters (agreements/agreements + disagreements). Table 3 presents the frequency and percentage of coded employer responses for each of the five major response classifications, along with the sub-categories receiving at least ten responses.

Insert Table 3 about here

The results in Table 3 suggest that employers surveyed by Project COMPETE were primarily interested in employees who demonstrated (what we refer to as) good work habits, work attitudes, and interpersonal skills. While certainly important, employer responses that were classified as belonging to the category of general vocational skills (i.e., skills directly related to doing a job, such as work rate, quality, and staying on task), represented only 20% of the total number of responses. These results are consistent with those of other surveys such as Stewart (1977) and Gruenhagen (1982). An instructional implication of these findings is that the teaching of work habits, attitudes, and interpersonal skills is at least as important in a vocational (re)habilitation program as instruction in work performance skills. Furthermore, we believe that effective training related to the development of work habits, work attitudes, and interpersonal skills

TABLE 3.

PROJECT COMPETE

EMPLOYER RESPONSES TO THE QUESTION, "WHAT MAKES A GOOD EMPLOYEE?"

(N = 84) (301 RESPONSES)

FOOD SERVICE (15), JANITORIAL (20), GENERAL LABOR (32)

GROUNDSKEEPING (7), LAUNDRY (6), HOUSEKEEPING (3)

	FREQUENCY	PERCENT
1. GENERAL VOCATIONAL SKILLS	59	20%
A. STAYING ON TASK / WORKING HARD	11	
B. WORK ABILITY / PERFORMANCE/	10	
2. WORK HABITS	61	20%
A. ATTENDANCE / PUNCTUALITY	26	
B. SELF-DIRECTION / INITIATIVE	22	
3. WORK ATTITUDES	88	29%
A. GENERAL ATTITUDE	18	
B. RESPONSIBILITY / DEPENDABILITY	26	
C. ENTHUSIASM / MOTIVATION	10	
D. INTEREST / PRIDE IN SELF OR WORK	10	
E. HONESTY	19	
4. MISCELLANEOUS PERSONAL CHARACTERISTICS	18	6%
A. CLEANLINESS / HYGIENE	16	
5. INTERPERSONAL SKILLS / COMMUNICATION	75	25%
A. WITH CO-WORKERS / SUPERVISORS	10	
B. WITH PUBLIC	17	
C. UNSPECIFIED OTHERS	10	
D. POSITIVE PERSONALITY / FRIENDLY	21	

should begin before severely handicapped youth arrive at the secondary public school level. Often it is a case of "too little, too late" when instruction in these skills is delayed until the last few years of school or after public school graduation.

Quality Control

Once a student/client in Project COMPETE is placed in a community work experience site, activities related to quality control come into play. Two forms used by project staff that relate to quality control are the Employer Concern Form (Form 1) and the Employer Rating Scale of Worker Performance (Form 2).

Employer Concern Form. Employers are asked to complete the Concern Form once each week for the first four weeks of placement, and once every other week for the remainder of the placement. In developing the Employer Concern Form, Project COMPETE staff reviewed pertinent available research regarding employment terminations of mentally retarded workers (e.g., Kochany & Keller, 1981) and later refined the instrument as new research became available (e.g., Hanley-Maxwell, Rusch, Chadsey-Rusch, & Renzaglia, 1986). This instrument also reflects research regarding vocational and social survival skills (Rusch & Mithaug, 1980). The purpose of the Employer Concern Form is to identify both social and work performance problems or deficiencies from the perspective of the worker's evaluative supervisor as early as possible so that appropriate training adjustments can be made that will assist the student/client's integration in the workplace.

Insert Form 1 about here

Table 4 presents a summary of employer-identified concerns regarding worker performance for seven students in their first work experience placement, and the three students who had completed a second placement by 8/8/86. These data demonstrate a substantial decrease in both in: (a) the mean number of employer-identified concerns throughout the first work experience placements; and (b) the mean number of all reported concerns identified during the first placement compared to the mean for all reports in the second placement. Note that employer concerns decrease markedly in the second placement data. These data are even more meaningful in view of the fact that the three students who completed the second placement together accounted for 50% of the employer concerns in the first placements. Evidently, multiple training placements can have a positive effect on low functioning learners.

Insert Table 4 about here

Employer Rating Scale of Worker Performance. This form is a summative evaluation tool completed by the employer during the last week of a work experience placement. There are two important features of this

FORM 1.

PROJECT COMPETE

EMPLOYER CONCERN REPORT

WORKER_____ POSITION_____

EMPLOYER_____ DATE_____ TRAINER_____

CHECK EACH AREA THAT IS CURRENTLY A CONCERN OR PROBLEM

_____ 1. ABILITY TO PERFORM ASSIGNED TASKS

_____ 2. GETTING ALONG WITH THE PUBLIC

_____ 3. PERFORM ASSIGNED TASKS AT AN ACCEPTABLE RATE

_____ 4. GETTING ALONG WITH CO-WORKERS

_____ 5. NECESSARY NON-VOCATIONAL SKILLS (E.G., TELL TIME, MATH, READ, WRITING)

_____ 6. GETTING ALONG WITH WORK SUPERVISOR

_____ 7. FOLLOWING DIRECTIONS

_____ 8. BEHAVIOR DURING WORK OR BREAK TIMES

_____ 9. SELF-DIRECTION

_____ 10. GENERAL APPEARANCE (ATTIRE, CLEANLINESS, GROOMING)

ADDITIONAL COMMENTS / SPECIFIC INCIDENTS:

Table 4

Summary of Employer Concern Forms For First Work Experience Placements (Mean Weeks in Placement = 8.7) and Second Placements (Mean Weeks in Placement = 8) in Columbus, IN, From 10/21/85 to 8/8/86.

	(N = 7) First Placement			(N = 3) Second Placement
Employer-Identified Concerns	All Reports	Weeks 1 - 4	Week 5 Through End of Placement	All Reports
1) Ability to perform tasks	14	10	4	0
2) Getting along w/ public	2	2	0	0
3) Work rate	14	11	3	2
4) Getting along w/ supervisor	7	5	2	0
5) Critical non-vocational skills	4	4	0	0
6) Getting along w/ co-workers	0	0	0	0
7) Following directions	3	2	1	0
8) Break time utilization/behvavior	1	1	0	0
9) Self-direction / stay on-task	12	8	4	1
10) General appearance	3	3	0	0
11) General work attitude	0	0	0	0
Totals:	60	46	14	3*
Mean Concerns per Worker:	8.57	6.57	2	1*

*Note: These same 3 students had a total of 30 employer-identified concerns for all reports from their first placement (Mean total concerns per worker = 10)

evaluation instrument. First, the items in this rating instrument were taken directly from the employer responses on occupational stability, and thus are based on employer-generated characteristics of a "valued employee." Second, this form requires the employer to compare the performance of a mentally retarded worker to that of a nonhandicapped co-worker doing the same or similar job. The comparison feature of this instrument has two purposes: (a) it is intended to provide the employer with information related to future hiring decisions regarding a mentally retarded job applicant; and (b) it provides Project COMPETE staff with a valuable quality control measure.

Insert Form 2 about here

Critical Functions Analysis

As mentioned earlier in this report, Project COMPETE utilizes a critical functions analysis to define job performance components and to evaluate the efficacy of training. The format for the critical functions analysis (Form 3) was adapted from the Task Analysis Data Sheet described by Bellamy, Horner, and Inman (1979). Note, however, that the critical functions analysis is not the same as a task analysis. A task analysis details the specific behaviors, the sequence of steps, and the manner in which learners are to perform tasks. An analysis of critical functions, however, is based on the identification of "critical effects" (White, 1980). Once the routines of a job are established, it is

FORM 2.

PROJECT COMPETE

EMPLOYER RATING SCALE OF WORKER PERFORMANCE

WORKER:_____ EVALUATOR:_____

BUSINESS/JOB:_____ TRAINER:_____ DATE:_____

INSTRUCTIONS: COMPARE THIS WORKER TO ANOTHER EMPLOYEE WHO HAS PERFORMED SATISFACTORILY DOING THE SAME OR SIMILAR TYPE OF JOB PLEASE RATE THE PRESENT WORKER ON THE LIST OF CRITERIA AT THE BOTTOM OF THIS PAGE USING THE FOLLOWING 1-2-3-4-5 SCALE:

BETTER	A LITTLE BETTER	ABOUT THE SAME	NOT QUITE AS GOOD	WORSE
1	2	3	4	5

(CIRCLE YOUR RESPONSES BELOW)

GENERAL WORK SKILLS

- STAYING ON TASK / WORKING HARD..... 1 2 3 4 5
- WORK ABILITY / PERFORMANCE..... 1 2 3 4 5

WORK HABITS

- ATTENDANCE / PUNCTUALITY..... 1 2 3 4 5
- SELF-DIRECTION / INITIATIVE..... 1 2 3 4 5

WORK ATTITUDES

- GENERAL WORK ATTITUDE..... 1 2 3 4 5
- RESPONSIBILITY / DEPENDABILITY..... 1 2 3 4 5
- ENTHUSIASM / MOTIVATION..... 1 2 3 4 5
- TAKES PRIDE IN HIS/HER WORK..... 1 2 3 4 5
- HONESTY..... 1 2 3 4 5

PERSONAL CHARACTERISTICS

- CLEANLINESS / HYGIENE..... 1 2 3 4 5
- APPEARANCE..... 1 2 3 4 5

GETTING ALONG WITH OTHERS

- WITH SUPERVISORS..... 1 2 3 4 5
- WITH CO-WORKERS..... 1 2 3 4 5
- WITH PUBLIC..... 1 2 3 4 5
- POSITIVE AND FRIENDLY PERSONALITY..... 1 2 3 4 5

possible to determine the critical effects (or required outcomes) throughout the work day. The critical effects are then analyzed to determine the critical functions (or accomplishments) required to generate the critical effects. An analysis of critical functions identifies only those things a student/client must get done in order to complete a job successfully. If a student/client can satisfactorily perform a critical function associated with the completion of a specific task, no further analysis of the skills required to accomplish that critical function is necessary (i.e., "if it ain't broke, don't fix it"). In other words, a critical functions analysis is much simpler, and requires less paper work, than a task analysis.

Insert Form 3 about here

Each vertical column of numbers on the right side of the Critical Function Profile (CFP, Table 3) represents an individual probe trial to assess the acquisition of critical job tasks. The critical functions for a particular job are listed on the left-hand side of the CFP. They begin at the bottom left and are listed upward in the general order in which they occur throughout the work day. To record a probe assessment, the job trainer observes the worker, and makes a slash over each number in a vertical column corresponding to an achieved critical function. Note that the student/client must perform the critical function with no assistance and no prompts to receive this mark. If the student/client

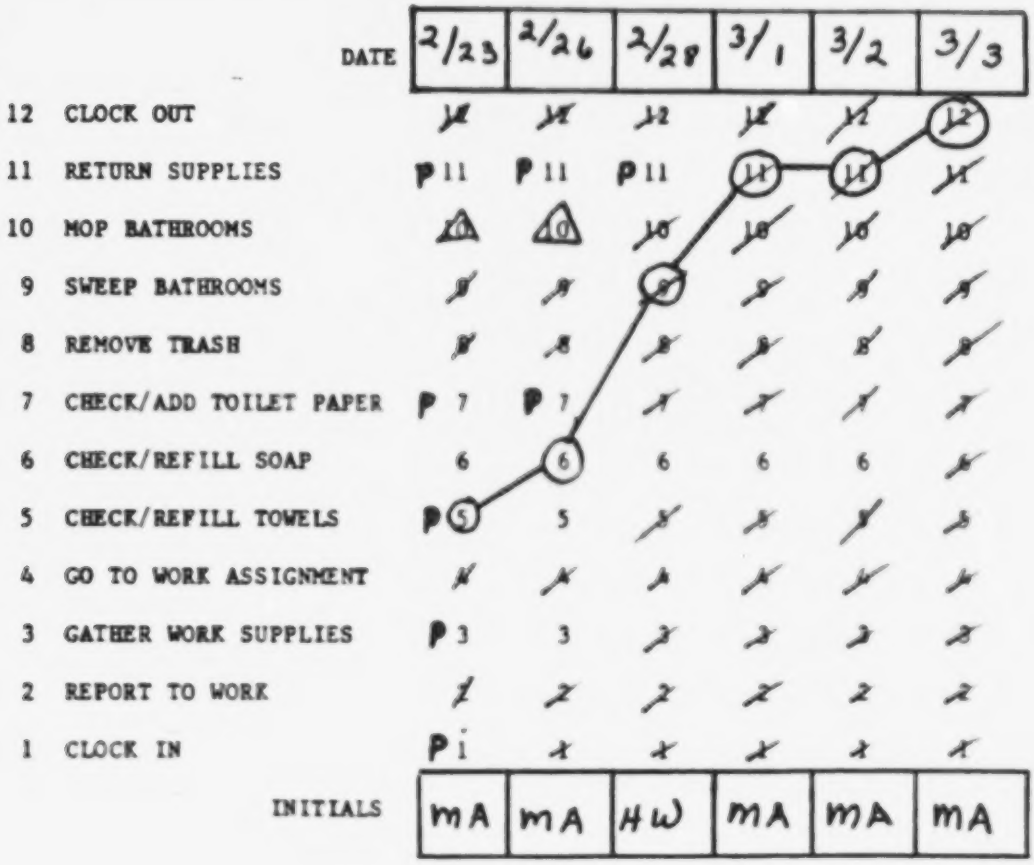
FORM 3.

PROJECT COMPETE

CRITICAL FUNCTION EVALUATION TOOL (DEMO)

TRAINING AREA Koala Center DUTY Custodian

WORKER ALAN TRAINER MARY A.



performs the critical function, but needs some form of prompt to do so, a "P" is written next to the number. If performance of a particular critical function is not required during a probe trial, a delta (or triangle) is drawn over the number (e.g., as when certain tasks are performed on alternate days). After all critical functions have been evaluated, the job trainer counts the achieved critical functions (cross marks only) for that probe, and circles the corresponding number in the probe column. As more probes are made, the circled numbers in consecutive columns are connected by a line. Connecting the circled numbers forms a graph corresponding to the ongoing achievement of critical functions.

As a student/client's performance is evaluated on the CFP, some critical functions are likely to emerge as unaccomplished, as indicated by horizontal rows of numbers without cross marks. If necessary, these critical functions can be task analyzed using separate sheets of the CFP form. Because our experience indicates that most critical functions do not need to be task analyzed, the use of this procedure is economical of trainer time and effort.

Critical Function Probe Results From 10/21/85 Through 8/8/86.

A summary of initial critical function probes and final assessment probes (usually eight or nine weeks following placement) from the first ten work experience placements in Columbus, Indiana, is provided in Table 5. The first column lists the job title for each placement. The second column, labeled "Initial Assessment," provides the number of accomplished critical functions divided by the total number of critical functions required during that probe trial, and (the percentage of

performed critical functions). The third column provides the same information format as the second column, but refers to the final critical function probe trial during that work experience placement. The last column presents the difference between the percentage of performed critical functions in the initial assessment and the performed critical functions in the final assessment. It is clear from the critical function assessment data presented in this table that even school-age youth who are "difficult to place in competitive employment" can learn the skills necessary to perform a variety of competitive jobs in a relative brief period of time.

Insert Table 5 about here

Concluding Statement

Across the nation there are many projects providing transition services to severely handicapped youth. Only a few of these projects focus on cooperative programming by both public schools and the rehabilitation centers that provide services to severely handicapped adults.

Project COMPETE was developed as a cooperative project. It's major tenet is that neither the public schools nor the rehabilitation agencies can provide all the services that are necessary to provide comprehensive transition services, and that both must be involved in the work. The public schools can provide vocational training, but after graduation of

TABLE 5.

CRITICAL FUNCTIONS ACHIEVED IN PLACEMENTS FROM 10/21/85 THROUGH 6/8/86.

JOB TITLE	INITIAL ASSESSMENT ACH/TOTAL (%)	FINAL ASSESSMENT ACH/TOTAL (%)	% CHANGE (FINAL - INITIAL)
BOTTLE SORTER	0/19 (0%)	15/19 (79%)	79%
KENNEL ASST.	18/23 (78%)	23/23 (100%)	22%
DIETARY AIDE	3/11 (27%)	7/8 (88%)	61%
CUSTODIAN	13/15 (87%)	15/15 (100%)	13%
CUSTODIAN	6/17 (35%)	19/21 (90%)	55%
DIETARY AIDE	3/11 (27%)	11/11 (100%)	73%
DISHWASHER	0/18 (0%)	24/24 (100%)	100%
KITCHEN ASST.	0/13 (0%)	19/19 (100%)	100%
CUSTODIAN	1/21 (5%)	20/21 (95%)	90%
CUSTODIAN	4/20 (20%)	19/20 (95%)	75%
MEAN PERCENT	27.9%	94.7%	66.8%

the students, they can no longer provide services. Clearly a student may be placed in a job prior to the time he or she graduates, but if the job is subsequently lost for some reason or another (and there are many possibilities) the former student is likely to be cast adrift (Dever & Easterday, 1987). On the other hand, rehabilitation centers have the authority to provide follow-along services, but typically can make little or no input to the programming provided school-aged youth despite the fact that they have much useful experience in training and placing disabled persons in jobs.

The marketing approach utilized by Project COMPETE is an attempt to develop parameters within which both public schools and rehabilitation agencies can work. One by-product of this approach is the identification of employer-preferred worker characteristics. The employers have indicated that they consider certain work habits, work attitudes, and interpersonal skills to be critical to occupational stability. Clearly, if instruction in these areas is begun early in the school years, the actual placement and training of severely handicapped individuals will be made easier at a later point in time. Another thing that our data tentatively indicate is that successive work experience placements generate fewer employer concerns. If these data hold, it can be interpreted to mean that a worker who has previously developed useful work habits, work attitudes and interpersonal skills will be easier to retrain in the event of a job loss because retraining can focus more intently on vocational skill training specific to the new job.

Finally, we believe that the data presented in this report demonstrate: (a) that employer-validated information and evaluative

feedback regarding the demands and expectations of competitive employment environments can be effectively utilized in vocational training programs; and (b) that substantial and effective employment training can take place during the secondary school years of severely handicapped youth. Furthermore, instruction that focuses on the demands of the work environment (including input from employers), and cooperative programming by both the public schools and rehabilitation agencies are critical elements of the provision of coordinated, comprehensive, and effective transitional programming for severely handicapped youth.

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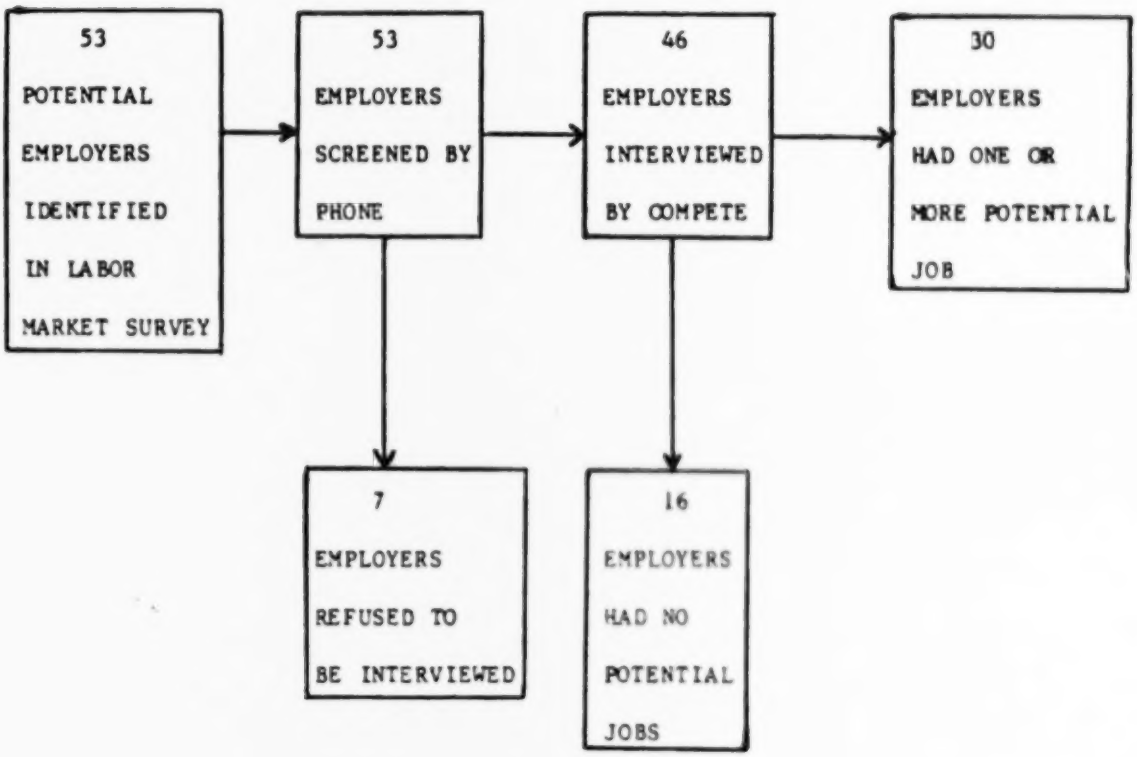
Appendix

Currently Available Replication Data From Site II (Seymour, IN)

PROJECT COMPETE

SEYMOUR EMPLOYER SURVEY



FOOD SERVICE	CUSTODIAL	GENERAL LABOR
17	6	24

Project COMPETE

Mean Employer Responses (by Occupational Cluster) Related to Degree that Incentive Would Affect Decision to Hire a Mentally Retarded Worker (Seymour, Indiana)

		Cluster		
Incentive	Total (N = 30)	Food Service (N = 15)	General Labor (N = 11)	Custodian/ Janitor (N = 4)
Regular Attendance	1.77	1.67	1.82	2.00
Long-Term Employment	1.70	1.67	1.64	2.00
Person on Call	1.23	1.07	1.27	2.00
Civic Responsibility	1.17	.93	1.18	2.00
Pre-Job Training	1.13	1.00	1.00	2.00
On-Site Trainer	1.10	1.07	.82	2.00
Public Relations	.97	.67	1.00	2.00
Funded O.J.T.	.87	.60	.82	2.00
Tax Credits	.65	.53	.73	1.00
Subminimum Wage	.57	.33	.73	.75

Note: 2 = Definitely Affect

1 = Maybe Affect

0 = Not Affect

Project COMPETE

Employers'* Responses to "What Makes Them Want to Keep an Employee?" and "What Makes Them Want to Get Rid of an Employee?" (Seymour, Indiana)

General Response Category	Keep freq./(%)	Get Rid of freq./(%)	Total freq./(%)
General Vocational Skills	11(14%)	14(17%)	25(15%)
Work Habits	13(16%)	24(29%)	37(23%)
Work Attitudes	39(49%)	27(32%)	66(40%)
Miscellaneous Personal Characteristics	4(5%)	6(7%)	10(6%)
Interpersonal Skills/ Communication	13(16%)	13(15%)	26(16%)
	80	84	164

*N = 30 employers.

Project COMPETE

The Number and Percentage of Critical Functions Achieved in Summer of 1986.

Placement	Initial Assessment Ach/Total (%)	Final Assessment Ach/Total (%)	% Change (Final - Initial)
1	2/12 (17%)	10/11 (91%)	74%
2	0/10 (0%)	5/7 (71%)	71%
Mean Percent:	8.5%	81%	72.5%